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ABSTRACT

The College Discovery Summer Program (CDSP) is a 6-week program designed to bring students already accepted for admissions to Bronx Community College (BCC) onto campus prior to their first year at BCC. The curriculum component of the CDSP includes intensive courses in mathematics, reading, and writing, while the student development component is a workshop in exploring self-esteem, study habits, and the skillful utilization of college resources. An evaluation of the CDSP program was conducted in two phases. First, 36 CDSP students were surveyed to determine their reasons for applying to the program, whether it met their expectations, and their evaluation of their program experiences; and 57 non-CDSP students were surveyed regarding their experiences with the regular summer programming. The second phase involve a comparison of the grade patterns and persistence rates of CDSP and non-CDSP students. Study findings included the following: (1) the two groups did not differ significantly, with both groups viewing their respective programs as helpful in preparing them for college, in clarifying their academic goals, and in their studies; (2) CDSP students registered statistically significant higher persistence rates in their first two terms than all entering freshmen; (3) the mean grade point average (GPA) of both groups rose with time, suggesting that the more academically proficient students tended to persist, or that GPA tended to rise for students who continued; (4) scholastic disqualification did not seem to play a major role in causing freshman attrition. While the study suggested positive short-term benefits for the summer program, questions concerning the program's long-term benefits remained unanswered. (JMC)

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# The College Discovery Summer Program: Its Effects on Persistence and Academic Performance.

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## Summary

The Summer Program is a six-week program designed to bring students already accepted for admissions to Bronx Community College (BCC) onto campus prior to their first year at BCC. The curriculum component of the College Discovery Program (CDSP) included intensives in Mathematics, Reading, and Writing. The Student Development component is a workshop in exploring self-esteem, study habits and skillful utilization of the resources of the college.

Program Evaluation

The evaluation of the CDSP Program was conducted in two phases. First, a survey was undertaken to determine the reasons that CDSP students decided to apply for the program, whether or not it met with their expectations, and to evaluate their experiences in the program. The second type of evaluation involved a comparison of the grade patterns and persistence rates of CDSP freshmen and non-CDSP participants.

Two survey instruments were developed in cooperation with the Office of Institutional Research. One instrument was mailed to students who had experienced the summer program of College Discovery, while the second instrument was mailed to a comparable group of students who experienced the college's summer program for regular (non-CD) students. The second phase of the CDSP evaluation involved an examination of persistence rates of CDSP versus non-CDSP students. A cohort of students (in this case, freshmen CDSP and non-CDSP who entered in a particular semester) were followed through their college career. Control groups of entering freshmen were matched with four entering classes of CDSP students. The control groups were selected on matched-pairs design; sex and high school grade point averages of freshmen CDSP students were matched with the entering freshmen.

A comparison of the CDSP and control group of summer students revealed results that did not differ significantly: 1) CDSP and regular summer program students viewed the program as most helpful "in preparing them for college"; 2) Both groups found that the program helped them "clarify their academic goals"; 3) Both groups found that the program helped them "in their studies." It appears from the survey that both groups benefited from the program for its academic preparation function.

The second phase of the evaluation effort involved a comparison of the persistence rates of freshmen CDSP and freshmen non-CDSP students. The comparison was helpful in evaluating the impact of the CDSP Program as an effective intervention program that could inhibit attrition among freshmen students. CDSP students registered (statistically significant) higher persistence rates in their first two terms than all entering freshmen: 1) Ninety per cent of the CDSP students remained one semester after entrance, compared to 85 per cent of all freshmen students. ($F=6.85$, $df=6$, signficant at .05 level); 2) Two semesters after entrance 75 per cent of all CDSP students remained whereas 68 per cent of all freshmen remained ($F = 10.13$, $df=6$, significant at .05 level).

Grade point averages (GPA) for Freshmen CDSP and non-CDSP students were compared as part of the evaluation. The mean GPA of persisting CDPSP and Non-CDPSP students rose with time, which suggests the "better" students (as measured by GPA) tend to persist or that the GPA rises for those students who continue. This suggests that grades could serve as one measure for predicting retention. Nonetheless, scholastic disqualification did not seemingly play a major role in causing freshman attrition. Forty-six per cent of the non-persisting freshmen who entered the CDSP Program in the Fall of 1987 left with GPA's in excess of 2.0. Students withdrew more for social and financial than academic reasons; performance is not necessarily correlated positively with persistence. While grades normally do not play a significant role in attrition, persisting students in both the CDSP and non-CDSP groups were found to have significantly higher grade point averages than non-persisters. No statistically significant differences were found in the grade point averages of CDSP and other freshmen students.

While this study suggests many positive short term benefits for the summer program, several important questions remain to be answered concerning the program's long term benefits. Persistence rates were shown to be significantly higher for program participants during their first year in college - one additional semester beyond their single semester of participation in the program. Why do the persistence rates move toward the baseline? After a year in college, do students become passive and anonymous members of the student body? What are the long-term relationships between early involvement in the Program and academic achievement (e.g. graduation)?

These and other important questions could be answered through an extended longitudinal examination of CDSP participants. By tracking program participants over a more extended time period (until several cohorts graduate) persistence rates and performance measures could be compared with those of non-participants to verify if the program has any long term benefits for its members. Since participant selection may be influencing the results of the present study, future evaluations should control for possible selection bias by examining motivational factors of students attracted to the summer program. Although the long term effects of the College Discovery Summer Program are unknown, the short term benefits certainly warrant the consideration of the summer program concept as a viable intervention program for freshmen at attrition-prone campuses.

# THE COLLEGE DISCOVERY SUMMER PROGRAM: ITS EFFECTS ON PERSISTENCE AND ACADEMIC PERFORMANCE

EMILIO SANTA RITA

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University summer bridge programs or transitional programs for low-income and minority students are becoming an established part of the effort to recruit, retain, and graduate a population of students underrepresented in higher education. Research and evaluation of these programs are less common, even though universities and colleges are spending enormous funds and human resources to ensure high participation and success.

General retention and attrition research has shown that several factors possibly contribute to the high attrition rates of underrepresented and low-income students. Tinto (1975) argues that college is a social system with its own values and social structure. He contends that if dropout from the social system can minifest itself as suicide in the wider society because of insufficient integration into society, then dropout from school can occur when a student is insufficiently integrated into the academic enviornment.

Building on Tinto's work, Pascarella (Pascarella and Terenzini, 1979; Terenzini and Pascarella, 1980; Pascarella and Chapman, 1983; Terensini and Pascarella, 1982) found that the extent to which the assessment of differential levels of social and academic integration and instiutional and goal commitment contribute to the prediction of persistence/dropout behavior when the influence of pre-college characteristics are taken into account.

Bean (1985) presents a different point of view. Bean argues that academic factors (e.g., college grades) and social-psychological factors (e.g., personal commitment) have a positive influence on a students' decision to persist, while environmental factors (e.g., institutional fit) have a negative influence on a student's decision to persist. Bean's theory of persistence/withdrawal is based on socialization as a process of acquiring the appropriate norms, attitudes, self-images, values, and behaviors that lead to acceptance by a group. Students who learn these roles will succeed, and therefore be more likely to persist.

Building on the work done by general attrition/retention theorists, models have been developed to specifically explain underrepresented (minority) student attrition/retention in various types of institutions (Nettles, 1986). One of the most highly researched models of minority student attrition/retention was developed at the University of Maryland. Tracey and Sedlacek (1985) developed a model to predict the performance of first-year minority college students because they found that traditional measures of success (e.g., first year grade point average [GPA] and admissions data such as Scholastic Aptitude Test [SAT] scores) were accurate predictors for White students, but not for Black students. Tracey and Selacek found that "less intellectual" variables or non-cognitive dimensions, as opposed to the more traditional factors, were more highly predictive of academic success for minority students.

Astin (9182) found that minority students with the best chance of persistence had: (1) high entrance GPA and test scores; (2) well-developed study habits; (3) a high academic ability self-esteem; (4) come from a relatively affluent and well-educated family; (5) an integrated high

school experience; (6) lived on campus; and (7) not held an outside job. Thus, according to Astin, minority students with a strong academic background and are well-integrated into campus life have a better chance of succeeding than do other minority students.

Research studies investigating attrition/retention of minority students have indicated that student success is based partly on past academic preparation and achievement, partly on demographic variables, and partly on student-institution fit. In light of these findings, how can a college help minority students succeed and persist through a transtional summer program?

College Discovery Summer Program (CDSP) is designed to increase the academic achievement, retention, and graduation of college discovery students. The goals and objectives of the programs are:

(1) To facilitate entering student's transition form high school to the community college;

(2) To increase the potential for the persistence, retention, and graduation of Summer Program students by introducing the academic demands of college, the social, political, and cultural context of college life, and college structure, resources, and services;

(3) To facilitate the development of critical thinking, academic skills, and personal and social responsibility;

(4) To introduce retention services including counseling, learning skills and tutoring;

(5) To foster the ability of Summer Program students to function in the college environment;

(6) To build and reinforce the positive self image, inner confidence and self direction of Summer Program students.

The Summer Program is a six-week program designed to bring students already accepted for admissions to BCC onto campus prior to their first year at BCC. The curriculum component of CDSP included intensives in Mathematics, Reading, and Writing. The Student Development component is a workshop in exploring self-esteem, study habits and skillful utilization of the resources of the college.

Program Evaluation

The evaluation of the CDSP Program was conducted in two phases. First, a survey was undertaken to determine the reasons that CDSP students decided to apply for the program, whether or not it met with their expectations, and to evaluate their experiences in the program. The second type of evaluation involved a comparison of the grade patterns and persistence rates of CDSP freshmen and non-CDSP participants.

Central to both evaluation efforts was the consideration of the question: What, if any, differences were between students who experienced the CDSP Program and other entering freshmen? In short, did CDSP Program make a significant positive difference such that the program should be continued? Does the CDSP programming concept suggest a viable alternative to assist students in overcoming the transition to college? Overall, is CDSP a viable vehicle to enhance retention of attrition-prone students at a college?

Methodoloy

Two survey instruments were developed in cooperation with the Office of Institutional Research.* One instrument was mailed to students who had experienced the summer program of College Discovery, while the second instrument was mailed to a comparable group of students who experienced the college's summer program for regular (non-CD) students.

Two CDSP classes from the Fall 1990 constituted the experimental group. Thirty-sixy usable surveys were returned from this group - a 87% response rate. Concurrently, a control group of non-CDSP students who entered in the Fall 1990 was surveyed. The control group consisted of students who attended the college's summer program for regular (non-CD) students. A total of 57 usable surveys were returned from the 78 control students - an 83 percent response rate.

The second phase of the CDSP evaluation involved an examination of persistence rates of CDSP versus non-CDSP students. A cohort of students (in this case, freshmen CDSP and non-CDSP who entered in a particular semester) were followed through their college career. Control groups of entering freshmen were matched with four entering classes of CDSP students. The control groups were selected on matched-pairs design; sex and high school grade point averages of freshmen CDSP students were matched with the entering freshmen.

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*Nancy Ritze, the director of the Office of Institutional Research, was extremely helpful in assisting the authors gather and analyze the data for this study.

TABLE 1

The Most Important Reason for Entering
The College Discovery Summer Program

"Which of the reasons you checked in question 1 would you consider the most important reason why you entered the program?"

| | Response | Count | % |
|---|---|---|---|
| 1. | Saw Program as useful in passing my remedial courses | 27 | 32.1 |
| 2. | Saw Program as useful in getting into my college-level courses faster | 20 | 23.8 |
| 3. | Saw Program as useful in clarifying my academic goals | 12 | 14.3 |
| 4. | Unsure about academic field and wanted to explore my tentative choice as soon as possible | 8 | 9.5 |
| 5. | Influence of my friends | 7 | 8.3 |
| 6. | Saw Program as a good way to see how college degree fits with my career plan | 7 | 8.3 |
| 7. | Saw Program as a good way of meeting faculty/professionals in my career field | 2. | 2.4 |
| 8. | Strong interest in an academic field and wanted to meet others with similar interests | 1 | 1.2 |
| | Valid cases: | 84 | 100.0 |
| | 6 missing cases | | |

Grade point averages and placement scores were compared for persisting and non-persisting students in both the CDPSP and non-CDSP control groups. A persisting student was defined as any individual who was enrolled at census date on a full or part-time basis. A student who dropped out and re-entered at a later date was re-entered into the original cohort group. A non-persisting student was one who was not enrolled at census date. This could be a temporary condition (known as a "stop-out" or "planned leave"), a true drop-out, or a student who had completed his or her degree.

## RESULTS

Freshmen CDSP participants gave a number of reasons for entering the program. In fact, over 108 responses were garnered from 36 CDSP students - over three reasons per student, on the average. The two most important reasons that students gave for entering the CDPSP were: (1) "Saw the program as useful in passing my remedial courses" and (2) "Saw the program as helpful in getting into my college-level courses faster" (see Table 1). The findings suggested that most students entered the program for academic, rather than social or other reasons. Since the primary goal of the CDSP was to create the transition environment to college studies, these findings suggested that the program was meeting its original goal. A number of students saw Program as "a good way to see how college degree fits with my career plan" and was "useful in clarifying my academic goals." This academic expediency appeared to be the primary reason why students entered the CDSP.

TABLE II
Usefulness of the College Discover Summer Program
"On the whole, do you feel that the Summer Program has been useful to you?"

81% Yes.* "If so, in what ways?"

| Response | Count | % of Response | % of Cases |
|---|---|---|---|
| 1. In passing my remedial courses | 63 | 29.7 | 86.3 |
| 2. In getting into my college-level courses | 42 | 19.8 | 57.5 |
| 3. In clarifying my academic goals | 36 | 17.0 | 49.3 |
| 4. Useful in my studies | 27 | 12.7 | 37.0 |
| 5. In discussing career goals | 24 | 11.3 | 32.9 |
| 6. Effectiveness of my counselor | 8 | 3.8 | 11.0 |
| 7. In making contacts with faculty | 6 | 2.8 | 8.2 |
| 8. In providing a group of friends to study with | 5 | 2.4 | 6.8 |
| 9. Specified "other" | 1 | 0.5 | 1.4 |
| Total Responses | 212 | 100.0 | 290.4 |

73 Valid Cases
17 Missing Cases

34% No.* "If not, to what do you attribute its failure?"

| Response | Count | % of Response | % of Cases |
|---|---|---|---|
| 1. Short time with the program | 21 | 32.3 | 67.7 |
| 2. Did not accomplish its social goal | 9 | 13.8 | 29.0 |
| 3. Faculty member was disinterested | 8 | 12.3 | 25.8 |
| 4. Too much emphasis on its social goals | 5 | 7.7 | 16.1 |
| 5. Too little emphasis on its academic goals | 3 | 4.6 | 9.7 |
| 6. Did not accomplish its academic goals | 3 | 4.6 | 9.7 |
| 7. Too little career orientation | 3 | 4.6 | 9.7 |
| 8. Too little emphasis on its social goals | 2 | 3.1 | 6.5 |
| 9. My counselor was ineffective | 2 | 3.1 | 6.5 |
| 10. Specified "other" | 9 | 13.8 | 29.0 |
| Total Responses | 65 | 100.0 | 209.7 |
| 31 Valid Cases | | | |
| 59 Missing Cases | | | |

*Some individuals who participated in the Summer Program reproted it as being both useful and not useful (i.e. 81% reported it useful. 34% not useful).

NOTE: Students could respond to more than one item. Therefore the "Percent of Cases" columns exceed 100% due to multiple responses, e.g., 86.3% of all persons responded to item one.

Eighty-one per cent of the CDSP students reported that, on the whole, the program had been "useful" to them and that it had been an effective means of "getting into my college-level courses" (see Table II). Those students who reported the program as not being useful to them attributed the program's failure primarily to "short time with the program" (i.e. short duration of the program). Ninety-four per cent of the CDSP surveyed said they would recommend the program to others, despite the fact that one-third of the participants indicated some concern over the program's usefulness (see Table II). Clearly, though the program's participants indicated some weaknesses in the program, the overwhelming majority registered satisfaction with their CDSP experience.

Several questions on the survey relating to "college preparation" - the major reason students gave for entering the CDPSP - were isolated and analyzed. A comparison of the CDSP and control group of summer students revealed results that did not differ significantly:

1) CDSP and regular summer program students viewed the program as most helpful in preparing them for college.

2) Both groups found that the program helped them "clarify their academic goals."

3) Both groups found that the program helped them "in their studies." It appears from the survey that both groups benefited from the program for its academic preparation function.

Another aspect of the CDSP experienced examined in this survey was the relationship between CDSP students and the faculty. Forty-eight percent of the CDSP students felt "at ease" talking to their faculty after classes or during office hours; this compares to 45 percent for the control

TABLE III

A Comparison of Persistence Rates for Freshman College Discovery Summer Program Students and All Entering Freshmen

| End of Semester | Fall 1987 Cohort CDSP Students | Fall 1987 Cohort All 1st Time Freshmen | Fall 1988 Cohort CDSP Students | Fall 1988 Cohort All 1st Time Freshmen |
|---|---|---|---|---|
| After | N = 35 | N = 34 | N = 38 | N = 36 |
| Entrance | % Remaining | % Remaining | % Remaining | % Remaining |
| 1st | 91.3 | 86.2 | 93.3 | 85.1 |
| 2nd | 78.0 | 70.0 | 77.6 | 65.6 |
| 3rd | 73.4 | 69.1 | 67.2 | 63.2 |
| 4th | 67.6 | 63.5 | 63.3 | 59.5 |
| 5th | 58.8 | 56.6 | 59.2 | 57.3 |
| 6th | 54.3 | 51.8 | | |

| End of Semester | Fall 1989 Cohort CDSP Students | Fall 1989 Cohort All 1st Time Freshmen | Spring 1990 Cohort CDSP Students | Spring 1990 Cohort All 1st Time Freshmen |
|---|---|---|---|---|
| After | N = 38 | N = 37 | N = 36 | N = 38 |
| | % Remaining | % Remaining | % Remaining | % Remaining |
| | 89.6 | 81.2 | 92.3 | 86.7 |
| | 75.0 | 67.6 | | |

The CDSP were selected on a matched pairs design, wherein sex and high school grade point averages were matched with the entering freshmen.

group's experience with faculty. Thus, the "friendliness" aspect of the CDSP appears to postively affect the students' relationships with faculty as well as peers.

The students' career interest were another major area examined in this survey. A comparision of the CDSP and non-CDSP revealed no signficiant differences in their academic concentration or major. Forty percent of both groups were approximately "undecided" on their choice of a major, with both groups expressing the most preference for nursing and business as majors.

PERSISTENCE AND ATTRITION: CDSP versus non-CDSP

The second phase of the evaluation effort involved a comparison of the persistence rates of freshmen CDSP and freshmen non-CDSP students. The comparison was helpful in evaluating the impact of the CDSP Program as an effective intervention program that could inhibit attrition among freshmen students.

Table III reveals that Freshmen CDSP, in general, have higher persistence rates than the non-CDSP group of entering freshmen. In fact, CDSP students registered (statistically significant) higher persistence rates in their first two terms than all entering freshmen.

1) Ninety per cent of the CDSP students remained one semester after entrance, compared to 85 per cent of all freshmen students. (F=6.85, df=6, signficant at .05 level)

2) Two semesters after entrance 75 per cent of all CDSP students remained whereas 68 per cent of all freshmen remained (F = 10.13, df=6, significant at .05 level).

While these results revealed that Freshmen CDSP persisted at a significantly higher rate during their first two terms than did freshmen students in general, the precise cause and effect relationship of the program's responsibility for producing these results is not that clear. Among other contaminating factors, a selection bias may have been operating. For example, were students who entered the CDSP Program more highly motivated than those who did not enter the program and did this positively affect persistence rates? Heist and Bilossrusky (1970) have found that block programs attract individuals with greater motivation for academic pursuits.

Since the first-time freshmen are given the option of entering the program, it is not clear from the above results if the more motivated and less attrition-prone individual is attracted to the Freshman CDPSP Program. Thus, while the results show more positive persistence patterns for CDSP students than non-CDSP students, the results cannot be attributed solely to the program. However, the survey results do suggest that the students'experience with the program provides ameliorating effects to the trauma of entering college, thereby aiding significantly in retention efforts.

ACADEMIC PERFORMANCE: CDSP versus Non-CDSP

Grade point averages (GPA) for Freshmen CDSP and non-CDSP students were compared as part of the evaluation. The mean GPA of persisting CDPSP and Non-CDPSP students rose with time, which suggests the "better" students (as measured by GPA) tend to persist or that the GPA rises for those students who continue. This suggests that grades could serve as one measure for predicting retention. Nonetheless, scholastic

TABLE IV

Signfiicance levels of CDSP Students
versus Entering Freshman

Persistence Rates

| Semester After Entrance | F-Value | Degrees of Freedom |
|---|---|---|
| 1st | 6.85* | 1,6 |
| 2nd | 10.13* | 1,6 |
| 3rd | 3.26 | 1,4 |
| 4th | 5.00 | 1,4 |

Grade Point Averages

| | F-Value | Degrees of Freedom |
|---|---|---|
| CDSP Persisters vs CDSP Non-Persisters | 104.32** | 1,14 |
| All Freshmen Persisters vs All Freshmen Non-Persisters | 111.80** | 1,14 |
| CDSP Persisters vs. All Freshmen Persisters | 2.19 | 1,14 |

*Significant at .05 level
**Significant at .01 level

disqualification did not seemingly play a major role in causing freshman attrition. Forty-six per cent of the non-persisting freshmen who entered the CDSP Program in the Fall of 1987 left with GPA's in excess of 2.0. These findings are consistent with those of an Educational Testing Service study which concluded that poor grades were not a major contributing factor to students leaving college before graduation (Tibby, Olson, and Petersen, 1978). As Pantages and Creedon (1978) concluded from their review of the literature, students tend to withdraw from an institution more for social and financial than academic reasons; performance is not necessarily correlated positively with persistence. While grades normally do not play a significant role in attrition, persisting students in both the CDSP and non-CDSP groups were found to have significantly higher grade point averages than non-persisters (see Table IV for F value). No statistically significant differences were found in the grade point averages of CDSP and other freshmen students.

Placement English writing, Reading, and Math scores for persisting and non-persisting CDPSP students were examined for both the CDSP and non-CDSP groups. Since placement tests are administered prior to college entrance they are not influenced by time, college grades, major, or other such factors. When comparing scores for persisting and non-persisting CDSP and non-CDSP students, all entering freshmen persisters as a group registered significantly higher Math placement scores than did non-persisters as a group. It should be noted that previous studies which examined longitudinal data found that SAT Math scores was significantly different between freshmen persisters and non-persisters (Newlon and Gaither, 1980). In fact, both studies suggest that SAT Math socres are better

TABLE V

A Comparision of Statistical Differences Within Selected Variables for Persisters and Non-Persisters

Math Placement Scores

| | F-Value | Degrees of Freedom |
|---|---|---|
| CDSP Persisters vs. CDSP Non-persisters | 19.86** | 1,14 |
| All Freshmen Persisters vs. All Freshmen Non-Persisters | 101.52** | 1,14 |
| CDSP Persisters vs. All Freshmen Persisters | .07 | 1,14 |

English writing Placement Scores

| | | |
|---|---|---|
| CDSP Persisters vs. CDSP Non-persisters | 4.36 | 1,14 |
| All Freshmen Persisters vs. All Freshmen Non-Persisters | 5.52 | 1,14 |
| CDSP Persisters vs. All Freshmen Persisters | .11 | 1,14 |

Reading Placement Scores

| | | |
|---|---|---|
| CDSP Persisters vs. CDSP Non-persisters | 5.86 | 1,14 |
| All Freshmen Persisters vs. All Freshmen Non-Persisters | 7.52 | 1,14 |
| CDSP Persisters vs. All Freshmen Persisters | .17 | 1,14 |

**Significant at .01 level

predictors of persistence for freshmen (CDSP and non CDSP) than SAT Verbal scores (see Table V).

## CONCLUSIONS

The data presented in this study reveal that the CDSP Program is serving a positive function for entering freshmen at BCC. The program offers promise for other institutions seeking a means to reduce attrition during the first term of college, one of the periods of highest attrition for new freshman. Results from a survey of CDSP and non-CDSP students and analysis of their persistence rates and academic performance indicate that:

1) CDSP students exhibited significantly higher persistence rates in their first two terms than freshmen not in the program; even after these students leave the CDPSP Program, which lasts for six weeks, their attrition rates are less than the baseline for the institution after one additional term.

2) College Discovery Summer Program participants viewed the program as an effective means of meeting remedial course requirements and getting into college-level courses.

3) Academic performance as measured by grade point averages was not significantly different between CDSP and non-CDSP students. However, it is not clear if these results are a function solely of the Summer Program.

## RECOMMENDATIONS FOR FURTHER RESEARCH

While this study suggests many positive <u>short term</u> benefits for the summer program, several important questions remain to be answered concerning the program's <u>long term</u> benefits. Persistence rates were shown

to be significantly higher for program participants during their first year in college - one additional semester beyond their single semester of participation in the program. Why do the persistence rates move toward the baseline? After a year in college, do students become passive and anonymous members of the student body? What are the long-term relationships between early involvement in the Program and academic achievement (e.g. graduation)? Would involvement in any such college transition program create a Hawthorne effect and thereby enhance the students' persistence rates and performance?

These and other important questions could be answered through an extended longitudinal examination of CDSP participants. By tracking program participants over a more extended time period (until several cohorts graduate) persistence rates and performance measures could be compared with those of non-participants to verify if the program has any long term benefits for its members. Such programs are more expensive than are traditional methods of instruction; if the long term results were insignifcant between participants and non-participants, the costs could prove prohibitive. Since participant selection may be influencing the results of the present study, future evaluations should control for possible selection bias by examining motivational factors of students attracted to the summer program. Although the long term effects of the College Discovery Summer Program are unknown, the short term benefits certainly warrant the consideration of the summer program concept as a viable intervention program for freshmen at attrition-prone campuses.

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